

In the Abstract:

Abstract

A multi-thermal zone shielding apparatus provides a multi-zone temperature profile for the shield while shielding a portion of a hot workpiece in a high temperature processing system. The apparatus keeps the workpiece temperature hot at the shielded area and ~~maintaining~~ maintains the rest of the shield ~~colder~~ at a lower temperature. The apparatus ~~comprises~~ includes a multi-thermal zone shield having a low thermal ~~transmitivity~~ transmissivity section for preventing [[the]] heat ~~lost of~~ loss from the shielded portion of the hot workpiece due to less thermal energy ~~being transmitted~~ transmitting through the shielding portion of the shield, thus maintaining a more uniform temperature at the shielded portion of the workpiece, and a high thermal ~~transmitivity~~ transmissivity section in the rest of shield for allowing more thermal energy from the hot workpiece ~~to be transmitted~~ transmitting through the shield without heating the shield, thus maintaining a ~~colder~~ lower temperature at the portion of the shield ~~that is not~~ engaged with the workpiece. ~~In a preferred embodiment, the invention~~ The apparatus ~~can further~~ includes ~~include~~ a non-reactive gas inlet for creating a pressurized cavity in the vicinity of the shielded portion of the workpiece.